

2019 Mach Conference Poster List
Alphabetical by Title

- A Hierarchical Multiscale Simulations Approach for Modeling Failure in Polymer Matrix Composites
Presenter: Xiawa Wu, Johns Hopkins University
- A Machine Learning Based Strategy for Accelerated Discovery of Novel Scintillator Chemistries
Presenter: TBD
- A phase field model of dislocation dynamics in bcc crystals
Presenter: Xiaoyao Peng, Carnegie Mellon University
- A self-consistent parametric homogenization framework for fatigue in Ni-based superalloys
Presenter: George Weber, Johns Hopkins University
- A study on the improvement of mechanical properties of Magnesium Alloys through rolling confinement
Presenter: Pavitra Krishnan, UNCC
- An experimental method for determination of dynamic mechanical behavior of materials at extremely high temperatures with high speed imaging
Presenter: Tao Suo, Northwestern Polytechnical University
- An Experimentally verified Finite Element model of a miniaturized Kolsky bar
Presenter: Thomas Hanna, Penn State
- Analysis of key miRNAs in the carcinogenesis of NSCLC with nano-inspect material
Presenter: Ke Wang, Xi'an Jiaotong University
- Automated Macro-scale Damage Characterization of a Plain-weave S-2 Glass/epoxy Composite Laminates
Presenter: Enock Bonyi, Morgan State University
- Deformation Driven Dynamic Precipitation in Mg-Al and Mg-Zn Alloys: a Comparative Study
Presenter: Suhas Eswarappa Prameela, Johns Hopkins University
- Determination of Stochastic Material Properties from the field of strain measurements
Presenter: Stephan Szyniszewski, University of Surrey (UK)
- Development of Analytical Models for fast selection of optimal parameters for EBSD data collection
Presenter: Noah Wade, Johns Hopkins University
- Doping and eutectic formation of boron carbide via arc melter
Presenter: Atta Khan, Rutgers University
- Dynamic Three-Point Bend of Hard Maple: The Next Phase of Multi-piece Fracture Reduction in Major League Baseball
Presenter: Madion Kierod, Drexel University

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- Dynamic Transverse Compressive Strength of UHMWPE Composites
Presenter: Jason Parker, Johns Hopkins University
- Effect of Carbon Concentration on Thermoelectric Properties of Boron Carbide Composites
Presenter: Yucheng Lan, Morgan State University
- Effect of Diels–Alder substructure on the mechanical behavior of epoxy resin using reactive molecular dynamics simulations
Presenter: Jejoon Yeon, University of Delaware
- Effects of material rate-dependence on the fragmentation of a one-dimensional bar
Presenter: Kendall Golder, Texas A&M University
- Effects of nano-inclusions on the thermomechanical behavior of PBX
Presenter: Babak Ravaji, Texas A&M University
- Equal Channel Angular Extrusion of Dilute Mg-Zn-Ca Alloys
Presenter: Jenna Krynicki, Johns Hopkins University
- Evaluating and Visualizing the Effect of Binders on the Green Strength of Dry-Pressed Spray-Dried Alumina
Presenter: Ian Maher, Rutgers University
- Experimental investigation of thermoresistive response of carbon nanotube yarns and their thermosetting monofilament composites
Presenter: Omar Rodriguez, Catholic University of America
- Fabrication of a low-cost, high-performance Scanning Electrochemical Microscope (SECM) and Nanoscale SECM Electrodes
Presenter: Michael Guy, Morgan State University
- Failure Behavior of Unidirectional Carbon Fiber Composites under Combined Environmental-Mechanical Compressive Loading
Presenter: Daniel Pardo, Drexel University
- Fracture Toughness of Silica Glass through Atomistic J-integral Approach
Presenter: Sanjob Chowdhury, University of Delaware
- High Throughput Mesoscale Simulations of Deformation and Failure of Magnesium Polycrystals
Presenter: Angela Olinger, Texas A&M University
- Hypervelocity Impact Facility at Johns Hopkins University
Presenter: Gary Simpson, Johns Hopkins University
- Identifying Damage Initiation of Woven Fiberglass Composites Under Compression
Presenter: Isabella Mendoza, Drexel University

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- Improved mechanical properties of Mg-6wt.%Al alloy through differential speed rolling
Presenter: Honglin Zhang, North Carolina A&T University
- Incorporation of TiB₂ into B₄C through sputter deposition and hot pressing
Presenter: Chawon Hwang, Rutgers University
- Influence of micro-inertia and rate sensitivity in laser-driven impact experiments
Presenter: Sayyad Basim Qamar, Texas A&M University
- Infrared measurement of hot spot formation in polymer bonded explosives subjected to dynamic loading
Presenter: Suraj Ravindran, Caltech
- Mesoscale and Continuum Models of Wave Propagation in a Woven Composite
Presenter: Christopher Meyer, US Army Research Laboratory
- Micromechanical 3-Dimensional Finite Element modeling of tensile failure of unidirectional composite
Presenter: Raja Ganesh, University of Delaware
- Micromechanical Modeling of Damage Evolution in S2-Glass/DER353 Epoxy Composites and Homogenization
Presenter: Zhiye Li, Johns Hopkins University
- Modelling Hypervelocity Impact on Asteroids
Presenter: Sakshi Braroo, Johns Hopkins University
- Moving window MD formulation for predicting shock kinetic relations
Presenter: Vinamra Agrawal, Auburn University
- Multi-Encoder Neural Networks for Predictive Material Characterization
Presenter: Dylan Madisetti, Johns Hopkins University
- Nondestructive damage detection - Digital Image Correlation on a vibrating rod
Presenter: Nicholas Lorenzo, US Army Research Laboratory
- Numerical model for predicting the input fragment size distribution for granular flow of a highly comminuted material
Presenter: Amartya Bhattacharjee, Johns Hopkins University
- Numerical Modelling of the Deflagration to Detonation Transition in Cast Explosives
Presenter: Rishi Gupta, Indian Institute of Technology Delhi
- On micromechanics of sticky granular solids
Presenter: Sandeep Rajendra Kumar, University of Houston

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- Orientation Effects in the Dynamic Tensile Failure of a Rolled Mg-Al Alloy
Presenter: Brandon D. Rowell, New Mexico Tech
- Packing and Flow of Aspherical Frictional Grains
Presenter: K. Michael Salerno, US Army Research Laboratory
- Parametrically Homogenized Continuum Damage Mechanics (PHCDM) Model for Composites
Presenter: Xiaofan Zhang, Johns Hopkins University
- Penetration and extraction of grooved anchors in clay
Presenter: Stephan Bless, New York University
- Pressure-Shear Plate Impact Experiments on Magnesium at High Pressures
Presenter: Suraj Ravindran, Caltech
- Progress on the stochastic micromechanical modeling of transverse punch shear damage behavior of unidirectional composites
Presenter: Bazle Haque, University of Delaware
- Quasi-Continuum Modeling of Fracture in Networked Materials
Presenter: Ahmed Elbanna, University of Illinois, Urbana Champaign
- Reaction Hot Pressing and Characterization of Dense Bulk Silicon-Doped Boron Carbides
Presenter: Michael Gagnepain, Rutgers University
- Real-time observation of Impact Damage in Silicon Carbide
Presenter: TBD
- Role of Multi-Stage Hardening in Void Growth and Coalescence
Presenter: Padmeya Prashant Indurkar, National University of Singapore
- Stochastic Finite Element Modeling of Carbon Nanotube Yarns Under Axial Tensile Force
Presenter: Akbar Pirmoz, Catholic University of America
- Stochastic quantification of ceramic impact response using the Johnson-Holmquist II model
Presenter: Stavros Kasinos, Imperial College London
- Strain Rate Dependence of a Stabilized, Nanocrystalline Cu Alloy
Presenter: Scott Turnage, US Army Research Laboratory
- Strain rate effects on the mechanical properties of glial cells
Presenter: Amy Dagro, Johns Hopkins University

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- Structural, Electronic, and Defect Formation Characterization of Polymeric Piezo Films
Presenter: Peker Milas, Morgan State University
- Tailored Activation Stress in Mechanochemistry Based Sensing of Material Damage
Presenter: Logan Shannahan, US Army Research Laboratory
- TBD
Presenter: Nicholas Ku, US Army Research Laboratory
- TBD
Presenter: Jiajie Huang, Johns Hopkins University
- Temperature Rise Associated with Adiabatic Shear Band: Causation or Consequence
Presenter: Yazhou Guo, Northwestern Polytechnical University
- The nucleation and propagation of persistent slip bands in Ni microcrystals
Presenter: Steven Lavenstein, Johns Hopkins University
- The role of elastic and plastic anisotropy in intergranular spall failure
Presenter: Justin Wilkerson, Texas A&M University
- Time-Resolved Characterization of Ballistic Testing
Presenter: Phillip Jannotti, US Army Research Laboratory
- Two dimensional dislocation dynamics simulation of twin nucleation in Magnesium (Mg)
Presenter: Harsh, Johns Hopkins University
- Uncertainty Quantification and Propagation in Parametrically Homogenized Constitutive Models
Presenter: Deniz Ozturk, Johns Hopkins University
- Uncovering exploitable insight from microstructures using machine learning algorithms
Presenter: Audrey Olivier, Johns Hopkins University
- Unusual strain rate behavior of a cellular metal with spatial layout of ceramic spheres
Presenter: Stefan Szyniszewski, University of Surrey (UK)
- UQ for continuum plain-weave composite plate model under projectile impact
Presenter: Anindya Bhaduri, Johns Hopkins University